

Remarks

The Office Action dated April 10, 2003 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-3 and 5-14 are pending in this application. Claims 1-10 stand rejected. Claims 11-14 are withdrawn from consideration. Claim 4 has been canceled.

Submitted herewith is a Submission Of Marked Up Claims in accordance with 37 C.F.R. § 1.121(c)(1)(ii).

Applicants, with traverse, elect for prosecution in this application all claims that belong to Group I, i.e., Claims 1-10.

The requirement for election is traversed because the inventions set out by the claims in Groups I and II clearly are related. Applicants submit that a thorough search and examination of either Group would be relevant to the examination of the other Group and would not be a serious burden on the Examiner. Additionally, requirements for election are not mandatory under 35 U.S.C.

Further, the Office Action has not shown that inventions I and II are unrelated. As specified in MPEP §§ 806.04 and 808.01, inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects. Particularly, the Office action has not shown that the inventions are not disclosed as capable of use together. Applicants respectfully submit that the kit recited in Claims 11-14 (Group II) has been disclosed as being capable of use with the dishwasher and method of operation of the dishwasher recited in Claims 1-10 (Group I). Specifically, Claims 6 and 10 recite that the sensor is a turbidity sensor and Claims 11-14 recite a kit comprising a

turbidity sensor. Accordingly, Applicants submit that the restriction requirement is improper and respectfully request that the election requirement be withdrawn.

The objection to Claims 1, 2, 4, 7, and 8 is respectfully traversed.

Claims 1, 2, 7, and 8 have been amended as suggested by the examiner. Claim 4 has been canceled.

For the reasons set forth above, Applicants respectfully request that the objection to Claims 1, 2, 4, 7, and 8 be withdrawn.

The rejection of Claims 1-10 under 35 U.S.C. § 102(b) as being anticipated by Alvord (US 5,803,985) is respectfully traversed.

Alvord describes a control system for a dishwasher that utilizing a turbidity sensor to achieve an optimum fill cycle water level in a chamber into which soiled dishes are loaded. An electronically actuable fill valve is controlled by a microprocessor in response to signals received from the sensor indicative of the turbidity of water in the chamber during the fill cycle. Once turbidity of the water in the chamber stabilizes or drops to a predefined level, the fill water is determined to have reached an optimum level and the flow of supply water is shut off. Alvord does not describe nor suggest terminating a wash cycle if the control mechanism determines a sufficient amount of water has not flowed into the chamber during the fill operation based on a signal from the sensor.

Claim 1 of the present application recites a "dishwasher comprising: a tub; . . . a sensor in flow communication with said tub; . . . and a control mechanism coupled to said sensor and to said fluid circulation assembly, said control mechanism configured to determine whether a sufficient amount of water flows into said tub during a fill operation based on a signal output by

said sensor and to terminate a wash cycle if said control mechanism determines that a sufficient amount of water has not flowed into said tub during said fill operation based on said signal output by said sensor".

Alvord does not describe nor suggest a dishwasher as recited in Claim 1. Particularly, Alvord does not describe nor suggest a control mechanism configured to determine whether a sufficient amount of water flows into the tub during a fill operation based on a signal output by the sensor and to terminate the wash cycle if the control mechanism determines that a sufficient amount of water has not flowed into the tub during the fill operation based on the signal output by the sensor. Rather, Alvord describes shutting off the water supply once the turbidity of the water stabilizes or drops to a predefined level. Also, Alvord describes that if the turbidity never reaches the predetermined minimum amount or the defined level of stability, the controller fills the was chamber to a predetermined maximum level (Col. 4 lines 8-12). This action does not terminate the wash cycle as suggested by the Office Action at page 5. Alvord does not describe nor suggest terminating the wash cycle if there is insufficient water in the wash chamber but rather describes using a timing method to provide the initial fill of water in the chamber. Alvord does not describe nor suggest determining if there actually is any water in the wash chamber. The claimed dishwasher of the present application automatically shuts down if there is insufficient water in the tub to prevent degradation or damage to the components of the dishwasher. Alvord does not describe nor suggest such an action. Accordingly, Applicants submit that independent Claim 1 is patentable over Alvord.

Claim 4 has been canceled.

Claims 2-3 and 5-6 depend from independent Claim 1. When the recitations of dependent Claims 2-3 and 5-6 are considered in combination with the recitations of Claim 1, Applicants respectfully submit that Claims 2-3 and 5-6 likewise are patentable over Alvord.

Claim 7 of the present application recites a method for controlling the operation of a dishwasher that includes "determining whether a sufficient amount of water has flowed into the tub during a fill operation, and if an insufficient amount of water has flowed into the tub during the fill operation, terminating a current wash cycle".

Alvord does not describe nor suggest a method for controlling the operation of a dishwasher as recited in Claim 7. Particularly, and as explained above, Alvord does not describe nor suggest determining whether a sufficient amount of water has flowed into the tub during a fill operation, and if an insufficient amount of water has flowed into the tub during the fill operation, terminating a current wash cycle. Accordingly, Applicants submit that independent Claim 7 is patentable over Alvord.

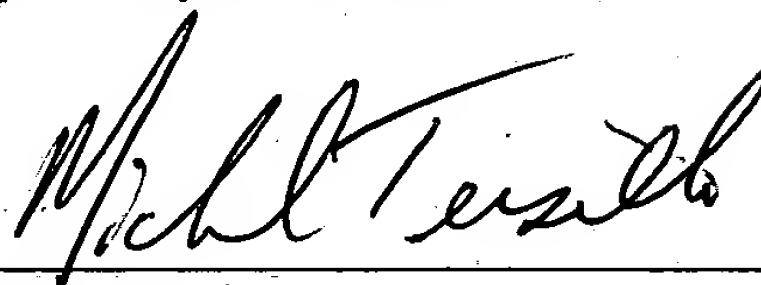
Claims 8-10 depend from independent Claim 7. When the recitations of dependent Claims 8-10 are considered in combination with the recitations of Claim 7, Applicants respectfully submit that Claims 8-10 likewise are patentable over Alvord.

For the reasons set forth above, Applicants respectfully request that the Section 102(b) rejection of Claims 1-10 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully

solicited.

Respectfully submitted,



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For: METHODS AND SYSTEMS FOR WATER
DETECTION IN A DISHWASHER

SUBMISSION OF MARKED UP CLAIMS

Commissioner for Patents
P.O. Box 1450
Arlington, VA 22313

A marked-up version of amended Claims 1, 2, 7, and 8, in accordance with 37 C.F.R.
§ 1.121(c)(1)(ii), follows below.

MARKED UP CLAIMS

1. (amended) A dishwasher comprising:

a tub;

at least one filter for filtering water in said tub;

a sensor in flow communication with said tub;

a fluid circulation assembly for circulating water in said tub; and

a control mechanism coupled to said sensor and to said fluid circulation assembly, said control mechanism configured to determine whether a sufficient amount of water flows into said tub during a fill operation based on a signal output by said sensor and to terminate a wash cycle if said control mechanism determines that a sufficient amount of water has not flowed into said tub during said fill operation based on said signal output by said sensor.

2. (amended) A dishwasher according to Claim 1 wherein to determine whether a sufficient amount of water has flowed into said tub, said control mechanism:

determines whether an output voltage signal from said sensor has transitioned from a first condition to a second condition.

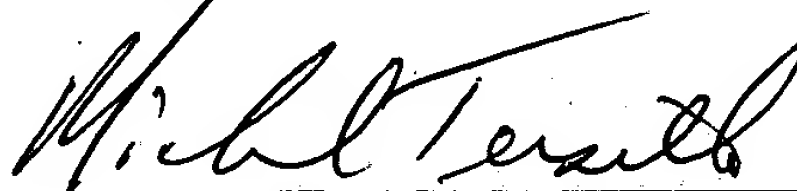
7. (amended) A method for controlling operation of a dishwasher, the dishwasher comprising a tub, at least one filter for filtering water in the tub, a sensor in flow communication with the tub, and a fluid circulation assembly for circulating water in the tub, said method comprising the steps of:

determining whether a sufficient amount of water has flowed into the tub during a fill operation, and

if an insufficient amount of water has flowed into the tub during the fill operation, terminating a current wash cycle.

8. (amended) A method according to Claim 7 wherein determining whether the sufficient amount of water has flowed into the tub comprises the step of determining whether an output voltage signal from the sensor has transitioned from a first condition to a second condition.

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